

REMARKS

Claims 2, 3, 5, 7, 8 and 18 are pending in this application. By this Amendment, claims 2, 3, 5, 7 and 8 are amended, and claims 1, 4, 6, and 9-17 are canceled without prejudice to or disclaimer of the subject matter contained therein. No new matter is added.

Entry of the amendments is proper under 37 C.F.R. §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (d) place the application in better form for appeal, should an appeal be necessary. Entry of the amendments is thus respectfully requested.

I. The Claims Define Patentable Subject Matter

The Office Action rejects claims 1-7 under 35 U.S.C. §102(b) as being anticipated by Tsukahara, U.S. Patent No. 6,051,093. The rejection is respectfully traversed.

It is noted that claims 17 and 18 have not been listed as rejected under 35 U.S.C. §102(b). However, it appears that claims 17 and 18 should have been listed as rejected claims as they are rejected in the detailed rejection on page 3 in the Office Action.

Accordingly, as claims 1, 4, 6 and 17 have been canceled by this Amendment, that portion of the rejection has been rendered moot, and claim 18 has been addressed as being rejected under 35 U.S.C. §102(b).

Tsukahara fails to disclose or suggest mounting the semiconductor chip on the base substrate so that a surface of the base substrate is in contact with bumps formed on the semiconductor chip (emphasis added), as recited in claim 18.

Tsukahara, on the other hand, discloses that the protruding bump 3 of the semiconductor element 1 contacts the conductive paste 7 in the hole of the circuit board 4

(col. 6, lines 20-22). In other words, the bumps in Tsukahara contact the conductive paste 7, rather than the surface of the base substrate. In fact, the bumps in Tsukahara cannot contact the base substrate because the circuit board 4 is surrounded by a copper foil 5 (Fig. 1).

Accordingly, Tsukahara fails to disclose or suggest mounting the semiconductor chip on the base substrate so that a surface of the base substrate is in contact with bumps formed on the semiconductor chip, as recited in claim 18.

Further, Tsukahara fails to disclose or suggest electrically connecting the bumps to the interconnecting lines by heating at least the bumps and pressing the semiconductor chip towards the base substrate so that the base substrate is mounted and the bumps are pushed into the base substrate, as recited in claim 18.

Tsukahara merely discloses forming an external electric terminal 33 by filling a hole 8 formed in the circuit board 4 with a conductive paste 7, positioning the external electrode terminal and protruding bumps 15 formed on an electrode of a semiconductor element 1, and pressing the semiconductor element to contact between the conductive paste in the hole and the protruding bumps (col. 4, lines 35-52). However, it is respectfully submitted that Tsukahara fails to disclose the process of heating at least the bumps and pressing the semiconductor chip towards the base substrate so that the base substrate is melted. That is, Tsukahara discloses pressing the protruding bumps 15 so as to be buried in the conductive paste 7, and heating the semiconductor element 1 so that the conductive paste 7 is cured within the pressing procedure, rather than heating the bumps so that the base substrate is melted and the bumps are pushed into the base substrate, as disclosed in Applicant's invention.

Accordingly, Tsukahara fails to disclose or suggest electrically connecting the bumps to the interconnecting lines by heating at least the bumps and pressing the semiconductor chip

toward the base substrate so that the base substrate is melted and the bumps are pushed into the base substrate, as recited in claim 18.

Because Tsukahara does not literally disclose the claimed invention, it cannot provide the basis for rejection under 35 U.S.C. §102. Further, Tsukahara does not suggest such a structure. Thus, it is respectfully requested that the rejection be withdrawn.

For at least these reasons, Applicant respectfully submits that Tsukahara fails to disclose or even suggest, the features recited in independent claim 18. Claims 2, 3, 5, 7 and 8, which depend from independent claim 18, are likewise distinguished over the applied art for at least the reasons discussed, as well as for the additional features they recite.

Reconsideration and withdrawal of the rejection are respectfully requested.

II. Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 2, 3, 5, 7, 8 and 18 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,



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JAO:DJC/jth

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Attachments:
Petition for Extension of Time

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